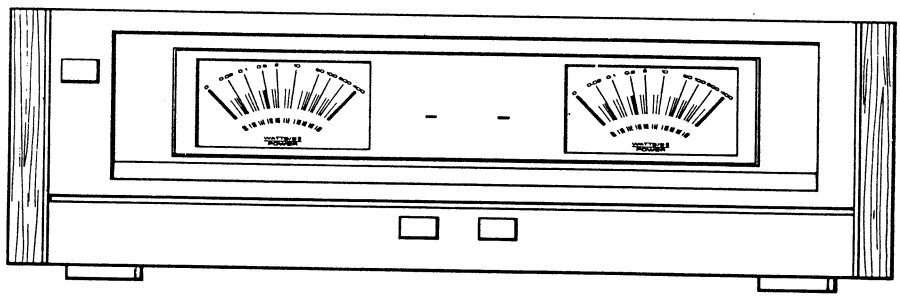
# SERVICE MANUAL

# MA200

## STEREO MAIN AMPLIFIER



# SPECIFICATIONS

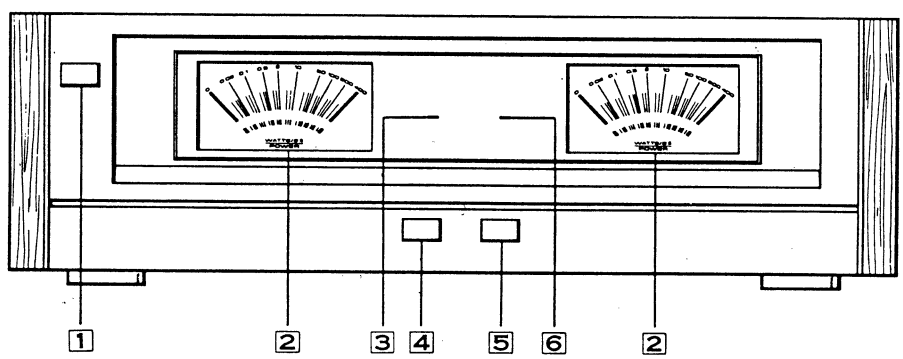
### Amplifier Section.

Continuous average power output
(both channel driven)
into 8 Ohms (from 20Hz to 20kHz) . . . . . .180W
into 8 Ohms (from 1kHz) . . . . . .200W
Total Harmonic Distortion
into 8 Ohms (from 20Hz to 20kHz) . . . . . 0.08%
Signal to Noise Ratio (IHF "A" Network) . . . . . 120dB
Input (Sensitivity/Impedance) . . . . . .1V/56KΩ
Frequency Response
6Hz to 110kHz . . . . . .−3dB
Power "ON" Muting Time. . . . . .5 Sec

### Miscellaneous.

Power requirements . . . . . AC220V, 50Hz
Power Consumption. . . . . .620W
Dimension . . . . . .460(W) x 130(H) x 380(D)mm

# FRONT PANEL FEATURES




### 1. POWER SWITCH

Depress the switch to supply power to the amplifier.

### 2. OUTPUT LEVEL METER

The output power level meters give a visual indication of audio power being delivered to each speaker.

### 3, 6. PROTECTION CIRCUIT OPERATION INDICATOR LAMP

The red LED indicates when the protection circuit is activated and the green LED indicates when the protection circuit is off.
The protection circuit activates for a 5–7 second period when the unit is powered ON and whenever the unit overheats beyond a specific temperature.

### 4. SPEAKER "A" SELECTOR SWITCH

Depress button to listen to the speaker systems connected to the speaker A terminals.

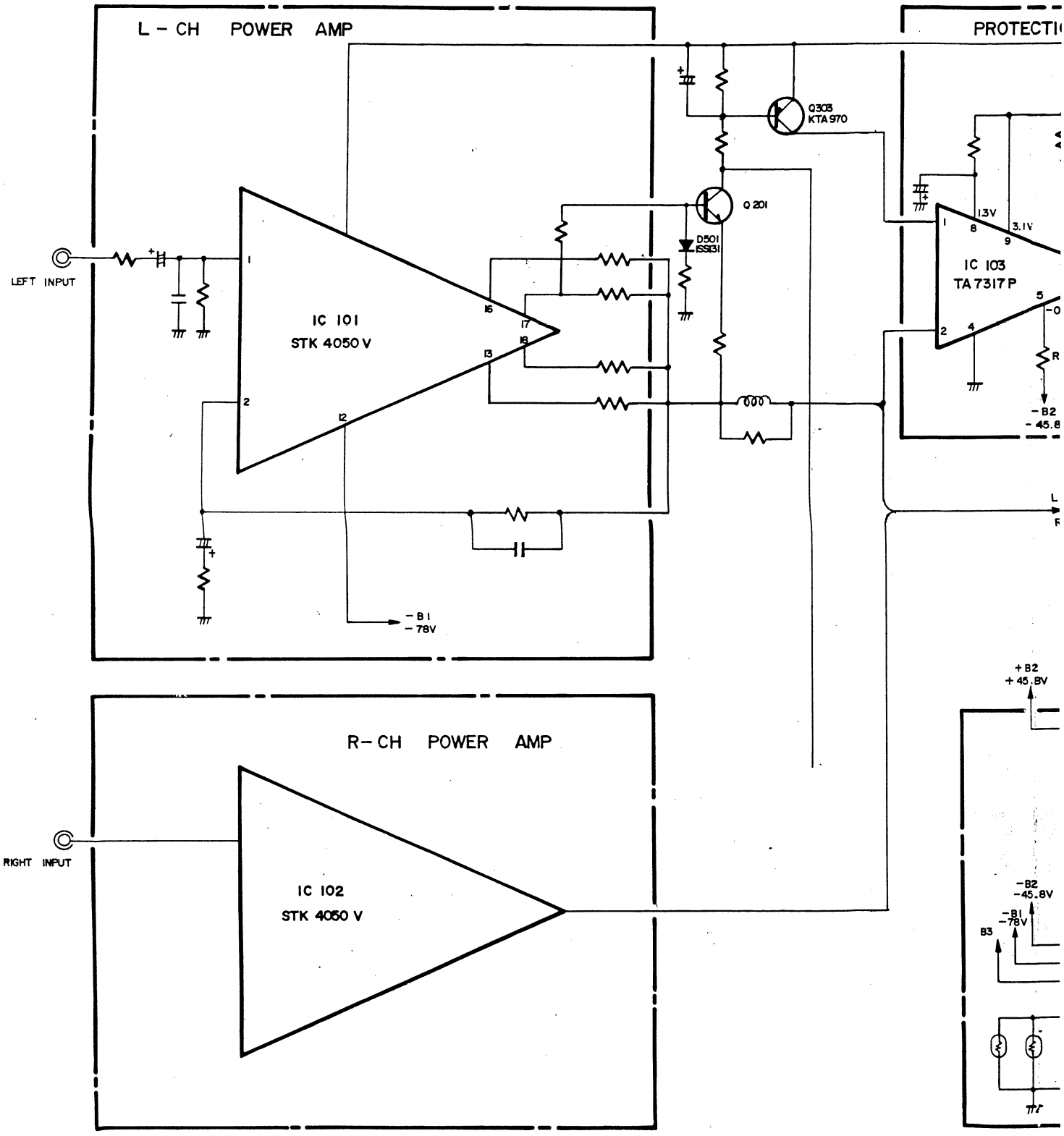
(ON) – Depressed position; The sound is heard from speaker systems.
(OFF) – Released position; The sound is not heard from speaker systems.

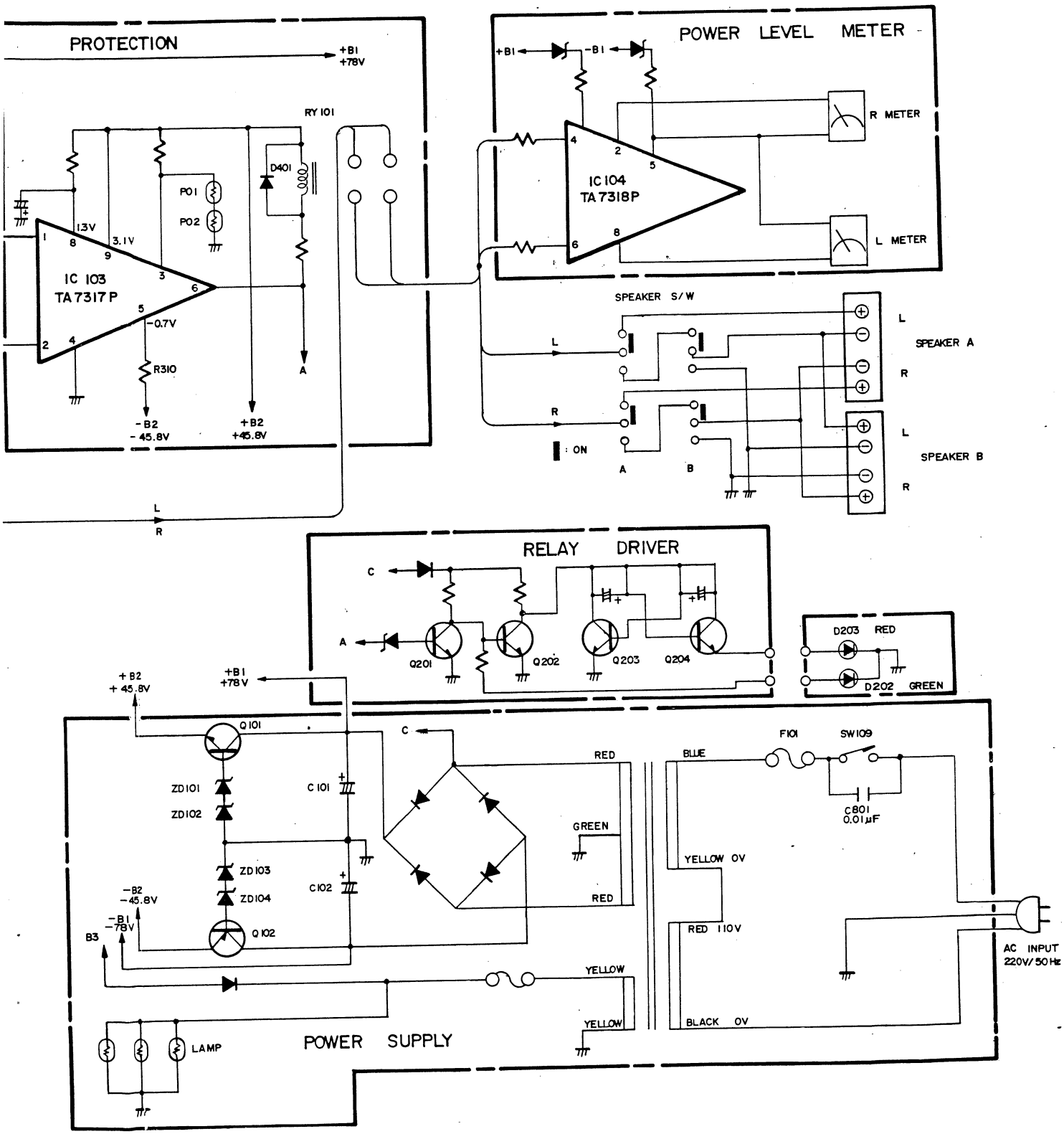
### 5. SPEAKER "B" SELECTOR SWITCH

Depress button to listen to the speaker systems connected to the speaker B terminals.

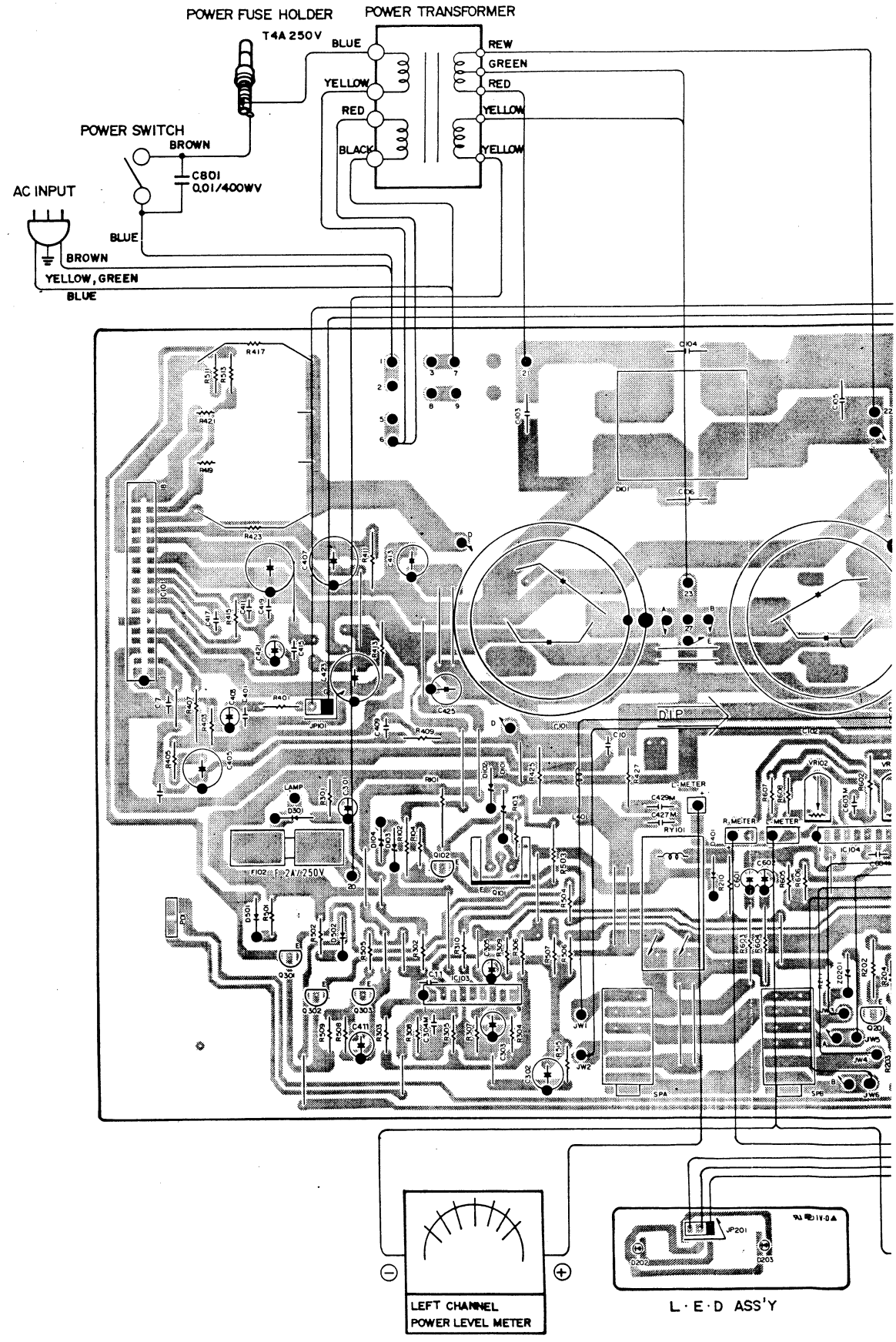
(ON) – Depressed position; The sound is heard from speaker systems.
(OFF) – Released position; The sound is not heard from speaker systems.

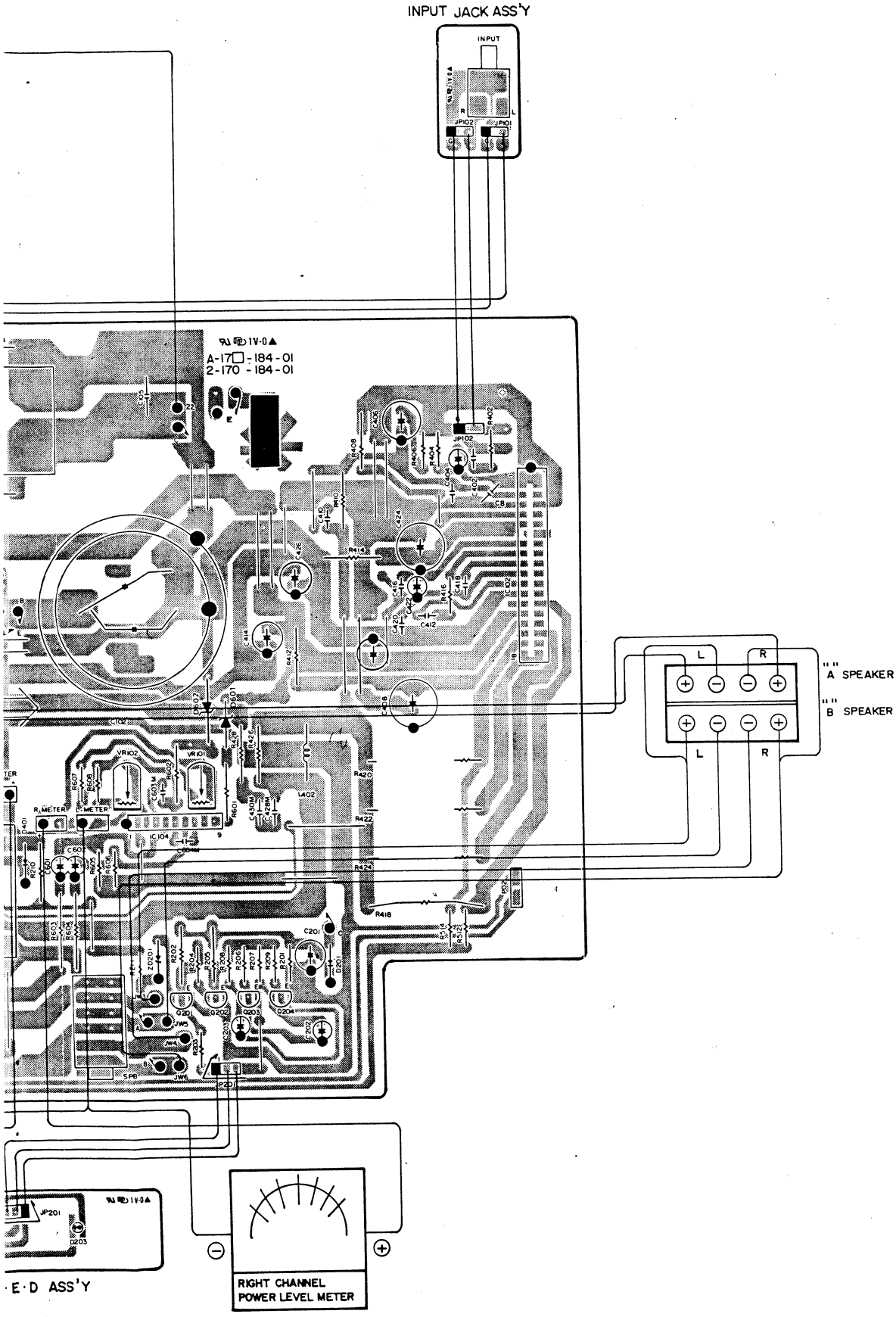
# BLOCK DIAGRAM



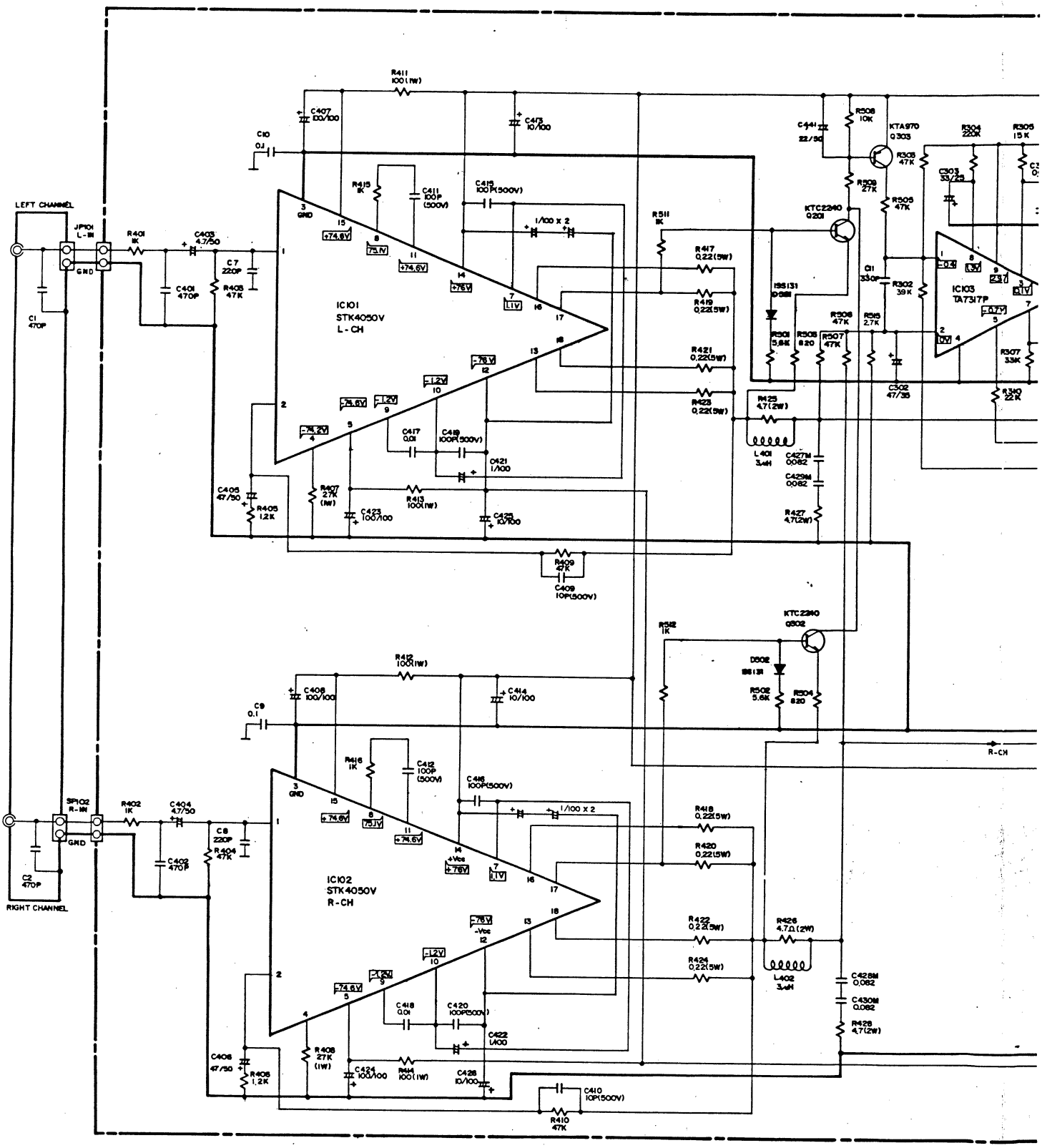

PROTECTION
+B1
+78V
RY 101
D401
P01
P02
1.3V
3.1V
IC 103
TA 7317 P
-0.7V
R310
-B2
-45.8V
+B2
+45.8V
A
L
R
POWER LEVEL METER
+B1
-B1
R METER
L METER
IC 104
TA 7318P
SPEAKER S/W
L
R
: ON
A
B
SPEAKER A
SPEAKER B
RELAY DRIVER
C
A
Q201
Q202
Q203
Q204
D203 RED
D202 GREEN
+B2
+45.8V
+B1
+78V
Q101
ZD101
ZD102
ZD103
ZD104
C101
C102
Q102
-B2
-45.8V
-B1
-78V
B3
RED
GREEN
YELLOW
F101
SW109
BLUE
C801
0.01μF
YELLOW 0V
RED 110V
BLACK 0V
AC INPUT
220V/50Hz
LAMP
POWER SUPPLY

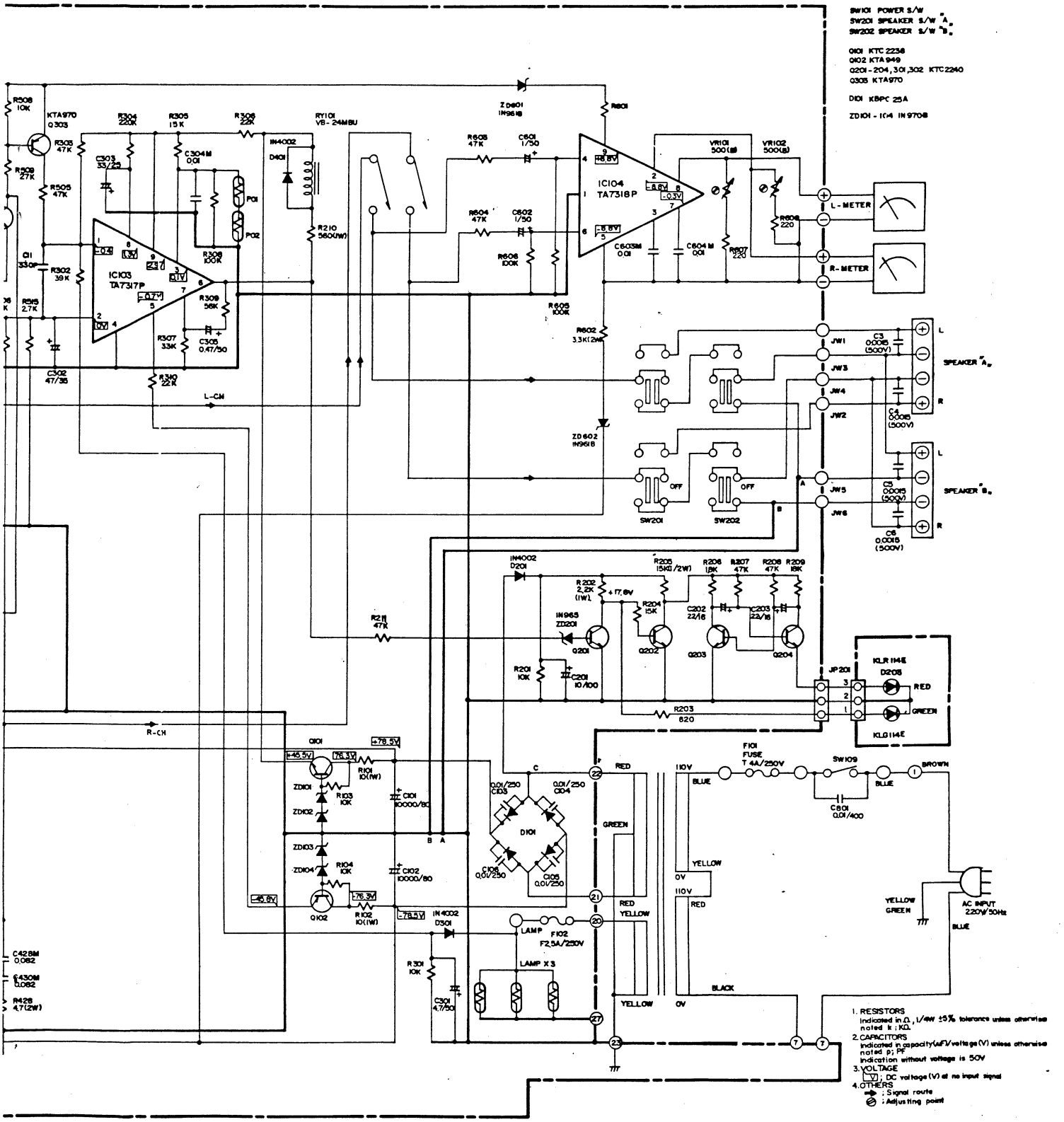
# WIRING DIAGRAM




INPUT JACK ASS'Y
INPUT
JP102
JP101
1V-0▲
A-17□-184-01
2-170-184-01
L
R
"A" SPEAKER
"B" SPEAKER
JP201
E·D ASS'Y
RIGHT CHANNEL
POWER LEVEL METER

# SCHEMATIC DIAGRAM




SW101 POWER S/W
SW201 SPEAKER S/W "A"
SW202 SPEAKER S/W "B"
Q101 KTC 2238
Q102 KTA 949
Q201 - 204, 301, 302 KTC 2240
Q303 KTA 970
D101 KBPC 25A
ZD101 - 104 IN 9708
IC103 TA7317P
IC104 TA7318P
L-METER
R-METER
SPEAKER "A"
SPEAKER "B"
SW201
SW202
JW1
JW2
JW3
JW4
JW5
JW6
JP201
KLR 114E
KLG 114E
RED
GREEN
F101 FUSE T 4A/250V
SW109
AC INPUT 220V/50Hz
BROWN
BLUE
YELLOW
BLACK
LAMP X3
F102 F2.5A/250V
L-CH
R-CH
1. RESISTORS
indicated in Ω, 1/4W ±5% tolerance unless otherwise noted k : KΩ
2. CAPACITORS
indicated in capacity(uF)/voltage(V) unless otherwise noted p; PF
indication without voltage is 50V
3. VOLTAGE
(V) ; DC voltage (V) at no input signal
4. OTHERS
: Signal route
: Adjusting point